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The History of the U.S. Coast Guard's Deepwater Program and Evolution of the Acquisitions Directorate

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Abstract The Coast Guard has created a robust acquisitions process for handling its assets. However, the Coast Guard has overcome many hurdles in order to become successful. In the late 1990's the Coast Guard realized its fleet was becoming antiquated and obsolete. As a result, a contract to modernize the fleet was awarded to ICGS to oversee and execute the Deepwater acquisition. Through mismanagement and lack of oversight, the Deepwater program to modernize the fleet was scrutinized and reexamined. In 2007, the Coast Guard assumed ownership of modernization, later referred to as fleet recapitalization. The Coast Guard created the Acquisitions Directorate (CG-9) which was a new command structure to handle the recapitalization program. In order to provide self-governance and direction, a strategic plan and systems manual was developed to emphasize a systems oriented approach to Coast Guard acquisitions management and oversight. The end result a cost-effective approach to sustaining the Coast Guard's missions in the 21st century and beyond.

Keywords: Deepwater, Modernization, Recapitalization, Acquisitions Directorate, CG-9

Part I – Introduction to the Integrated Deepwater Project

1.1. Modernization of the Fleet

The United States Coast Guard (USCG) has a long tradition of utilizing obsolete equipment, often well-used hand-me-downs from the U.S. Navy, in order to perform their diverse range of maritime missions while operating within their underfunded budget. In the early 1990's the Coast Guard determined that their fleet of 93 cutters and 207 aircraft were becoming antiquated and obsolete, and would not be able to meet the anticipated deep-water mission demands of the 21st century. Deep-water missions are defined as those that occur at distances exceeding 50 nautical miles from the coast line. In 1998 the Coast Guard issued a Request For Proposal (RFP) to the maritime

industry for a complete package of assets and systems to meet the Coast Guard's list of mission requirements [1].

However, the Coast Guard recognized that it was completely unprepared to run a multi-billion dollar project, in terms of both personnel and resources. In order to attempt such a grand scale recapitalization, the original RFP included provisions for the contractor to provide management and oversight of themselves, which was intended to allow the Coast Guard to "outsource" the management of the entire project. The project barely entered the initial stages before it became obvious that it was suffering dramatically from setbacks [2].

On June 25, 2002 the Coast Guard awarded a \$17 billion, 20 year-long contract to Integrated Coast Guard Systems (ICGS) to modernize the USCG's fleet of surface cutters, small boats, and aircraft, while also integrating modern electronic systems aboard those new craft [1,2]. These electronics are commonly referred to as C4ISR systems, which stands for Command, Control, Communications and Computers, Intelligence, Surveillance and Reconnaissance. Established in June 2001, ICGS was a joint venture between Lockheed Martin and Northrop Grumman which was specifically created for the purpose of satisfying the Coast Guard's RFP [1, 2]. In response to the terrorist attacks on September 11, 2001, the Coast Guard and ICGS renegotiated the Integrated Deepwater Systems Program (Deepwater) contract in 2005 from a \$17 billion, 20 year agreement to a \$24 billion, 25 year agreement that reflected the services new needs and missions as part of the newly created Department of Homeland Security (DHS) [2].

1.2. Question of Oversight

As with any government funded acquisition program, the Deepwater program was subject to review by the Government Accountability Office (GAO). There have been several reports released by the GAO regarding the Deepwater program, but the first was a 2005 investigation into the basic structure of the Deepwater contract [1, 2, 3]. The GAO expressed concerns over the Coast Guard's

decision to allow the contractor, ICGS, to provide their own oversight [1,2]. At the time, it was perceived that the contract structure enabled several individual project failures to occur, which compounded into a public spectacle that took nearly a decade to resolve [4].

1.3. Island Class Conversion Failures

The first of these debacles was a project that was supposed to convert eight of the Coast Guard's 110 foot long Island Class patrol boats, each already over 20 years old, by adding 13 feet to their length, updating and expanding the onboard C4ISR suite, expanding the superstructure, and adding a stern launch for small boats [1,3]. The intent was to supplement the Coast Guard's patrol boat fleet until the new Fast Response Cutter's (FRC) could be built to replace the obsolete Island Class vessels [1,2].

Despite the original engineering plans being approved by USCG naval architects, the Coast Guard was not involved in any of the actual work performed, including quality control checkpoints [3]. The original hull materials were found to be more fatigued, and therefore weaker, than anticipated in the original design plans. ICGS, and their subcontractor performing the physical extension work, elected to also use a lower grade of steel in the new hull sections than the original plans called for [3,4]. As a result of the combination of these two issues, all eight of the converted 123 foot patrol boats suffered significant structural failures that rendered them unseaworthy, costing over \$100 million and perhaps more importantly, removing eight valuable cutters from an already depleted fleet of patrol craft [3]. Both of these issues could have, and should have, been recognized by either independent or government oversight of the quality control process. As one official remarked, "We put the fox in charge of guarding the hen house" [3].

1.4. Radio Failures

Another part of the 123 foot conversion project also made national headlines. A Lockheed Martin employee, Michael DeKort, made several videos on YouTube disclosing concerns that "a series of known deficiencies by the contractors, and acquiescence in the deficiencies of other [sub]contractors, has led to major safety, security and national security problems with the entire Deepwater acquisitions program" [3]. One such instance was the fact that ICGS selected VHF radios that were not waterproof for the small boats they built to go in the stern launch ramp. The small boats are open cockpit designs that are constantly exposed to sea spray, waves, and rain. When DeKort tried to warn Lockheed Martin about the radios, he was ignored. In fact, it wasn't until it rained during testing months later, and 4 of the radios shorted out, that Lockheed Martin and

ICGS decided to change the radios out for waterproof models [3,4].

According to an interview conducted by *60 Minutes* [3], DeKort was forced to resort to YouTube because the normal news media companies wouldn't give his whistleblowing story the airtime it deserved because they thought it was too farfetched, and who can blame them? Non-waterproof radios for the Coast Guard? Although far-fetched and hard to believe, it was proven by the DHS Inspector General's office to also be the case on many of the other vessels ICGS was providing to the Coast Guard [1,2]. While this issue was eventually discovered and corrected, a government representative responsible for oversight of that part of the contract would have provided DeKort an alternative means to express his concerns directly to the Coast Guard. Hind sight is 20/20, but Coast Guard oversight would have ensured the issue could have been addressed before it became a public affairs nightmare for both Lockheed Martin and the Coast Guard.

1.5 National Security Cutter Structural Failures

The National Security Cutter (NSC), a 418 foot long replacement for the Coast Guard's aging 378 foot High Endurance Cutters, wasn't immune to problems either. Despite the design being initially approved by both Northrop Grumman and the Coast Guard, subsequent reviews performed by engineers from the Coast Guard and Navy later discovered significant flaws in the ship's structural design that would lead to premature metal fatigue [1,2,3]. In certain operating environments, such as the Bearing Sea, these design deficiencies could possibly result in structural failure in as little as 3 years, only a tenth of the contractually required service life of the ship [3]. By the time it could be corrected in the design, production was already completed on hulls 1 and 2. Both of the first two NSC's would require major retrofits during their first planned dry-dock availabilities, but hulls 3 and 4 were modified and built to the new standard at an increased cost [3].

The first NSC hulls were supposed to cost around \$450 million each, but that price rose dramatically to nearly \$650 million per ship after the structural issues were discovered. The sixth and most recent hull, started in FY2013, is expected to cost over \$735 million, a growth of 63% over the original price estimation per hull [2,3].

Many government officials, including members of the Coast Guard, suggest that an equal share of the blame for these Deepwater failures lay on both the contractor ICGS and the Coast Guard [1,3]. The Coast Guard did not fully think through the contract and failed to specify specific and measureable requirements. They also failed to provide adequate contractual oversight or even any type of oversight structure that could have been successfully outsourced to the private sector. Some former ICGS officials have been quoted by the media to have said that ICGS failed to charge

a “best price” to the government, shortchanged requirements, and knowingly built ships out of substandard materials [3].

Part II – Acquisitions Directorate

2.1. Deepwater Reformation

Throughout the Deepwater program, the Coast Guard faced intense scrutiny for its efforts to execute and manage its acquisition programs; however, the Coast Guard marked a major milestone on July 13, 2007. The Coast Guard elected to allow the Deepwater contract with ICGS to expire, and established the new Acquisition Directorate (CG-9) to assume an oversight role of the existing Deepwater acquisitions programs. The new organization had begun to take shape in 2006, when then-Commandant Admiral Allen directed the establishment of CG-9 as one of his 10 visionary transformation initiatives for the Coast Guard [5].

Under the new organization, programs from the legacy Coast Guard acquisition directorate and the Deepwater program were brought together under a single executive authority within the Coast Guard. The Coast Guard’s Office of Procurement Management, the Office of Research, Development and Technical Management, the Research and Development Center, and the Head of Contracting Activity were all consolidated into this new and robust directorate. Together, these offices helped to establish the foundation for a full-service acquisition and procurement management organization intended to correct the issues experienced with the Deepwater program.

In order to take control over the acquisitions process, the Coast Guard developed the *Blueprint for Acquisitions Reform* in 2007, also known as the *Blueprint* [6]. The *Blueprint* outlined a strategy for the Coast Guard to survey past performance and review lessons learned, with the goal of cataloging specific issues that historically impeded the efficient execution of acquisition projects [7]. Perhaps the biggest lesson learned was the importance of contract oversight, and the *Blueprint* provided greater clarity in the Coast Guard’s role for project execution. Improved role definition enabled the Coast Guard to prepare its acquisition personnel to stringently monitor the development of the acquisitions lifecycle. The Coast Guard learned that oversight required full engagement and insight into the contractors’ processes, decision making, quality control, and quality assurances.

Once the Coast Guard was able to establish the *Blueprint* for executing the acquisitions reform, the process to define goals and objectives became a continuous refinement process. In 2008, the Coast Guard executed Phase II of the *Blueprint for Acquisition Reform* which created Product Lines to manage individual platforms throughout their assets lifecycle [8]. The Product Lines served as a single-point accountability which addressed CG-9’s emphasis of project oversight. In response to the

need for professional and qualified acquisitions personnel, a career path for internally developing military and civilian employees was created. This was accomplished through new positions within CG-9 and the Product Lines, in addition to training project management courses available through the Defense Acquisitions University (DAU) [9].

2.2 Acquisitions Strategy

As the *Blueprint* evolved, CG-9’s vision, mission, and acquisition goals became more and more quantifiable. Performance targets and measures were established to accomplish the goals set forth by the *Blueprint’s* mission. By the time *Blueprint 5.0* was published, then-Commandant Admiral Papp underlined the strategic goals created by the *Blueprint*. These strategic goals emphasized the Coast Guard’s efforts to sustain a certified professional acquisition workforce and reinforced a knowledge-based decision making process [10]. The Coast Guard continues to streamline the acquisitions reform into what it is now today, the *Acquisition Directorate Strategic Plan: Blueprint for Sustained Excellence*, also known as the *Plan*.

The *Plan* provides the top-level direction and structure to improve the unified approach to acquisition success. The goals, objectives and performance measures it describes guides the Coast Guard’s acquisition enterprise toward sustaining mission excellence and achieving its vision to be a model of acquisition excellence in government [10]. As such, those goals, objectives and performance measures are relevant to every element of the acquisition workforce. With tangible goals the Coast Guard strives towards acquisitions success which can be measured to show tangible results. This continuous development of the *Plan* has paralleled the policy and process for the Coast Guard’s major systems acquisition projects.

In addition to strategic guidance for acquisitions development, the *Major Systems Acquisitions Manual (MSAM)* was developed in parallel to the *Plan* to provide the Coast Guard with detailed guidance during the development of the acquisitions lifecycle. The *MSAM* provides a uniform and disciplined approach to acquisition planning and project management from mission analysis and requirements generation through design, development, production, and deployment [11]. Additionally, the *MSAM* aligns the Coast Guard’s major acquisition policies with DHS management policies and processes to further expedite the acquisitions process. Coupled with the *Plan*, the *MSAM* has refined Coast Guard acquisitions to accomplish the original goal of fleet modernization, also known as recapitalization, while providing the necessary oversight in all acquisition projects.

2.3. Acquisitions Implementation

The newly revamped acquisitions Coast Guard program reexamined and resolved the FRC project by

soliciting a ship to be built on an existing, proven hull design. This approach to the FRC production significantly accelerated FRC production and was extremely cost effective during development. Learning from their mistakes on the 123 foot conversions, the Coast Guard worked closely contractors to ensure all prescribed specifications and contractual obligations were successfully met. Also, an assembly line approach to production with checkpoints in quality identifies problems early in production which helps to control costs.

In addition to the FRC reformation, Coast Guard acquisitions set its sights on the NSC production contract. The first 3 NSC's, acquired under the Deepwater contract, were awarded under a cost-plus fee contract. This contractually obligated the Coast Guard to reimburse the contractor for any additional expenses occurred and costs were considerable considering all of the structural failures and design flaws identified. However, Coast Guard acquisitions changed its contract for hulls 4 and 5 to reflect a fixed-price contract which places the risk on the side of the vendor. NSC's 4 and 5 also support acquisition's stability for shipyard production to get closer to a "heel-to-toe" production schedule. This steady assembly line approach catches discrepancies early in production to help control costs [12].

The Coast Guard has also recently awarded multiple, fixed-price contracts for the construction of the Offshore Patrol Cutter (OPC). The OPC is the next phase for recapitulation and is a testament to the refined and robust acquisition's reformations. Awarding multiple design contracts ensures that competition is continued through to a potential down-select for detailed design and construction, establishes a fixed-price environment for the remainder of the contract, and incorporates a strategy to maximize affordability [2].

4. Conclusions

The current acquisitions process has propelled the Coast Guard into a modern system of effective and efficient asset management. Lessons learned from the Deepwater project have formulated the Acquisitions Directorate command structure to ensure and enforce project oversight and systems management. The guidelines created, such as the *Plan* and *MSAM*, provide clear and concise directions for those operating under CG-9 and allows for specific measures to achieve the goals set forth by the command. Although the Coast Guard has created a comprehensive and encompassing process, there are still improvements to be made to the system; however, the Coast Guard has designed their acquisitions process to prevent project mishaps, such as Deepwater, from occurring. The Coast Guard continues to strive to be a model for acquisition excellence in the government and the assets produced as a result will continue to sustain the Coast Guard's mission into the 21st century.

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